

In the specification:

(1) On page 41, line 21, after "collapse response." Please add the following:

As stated above, data acquisition is event based, where a structure's current condition and state is assessed, recorded and used for real time structural evaluation. Evaluations are performed on the basis of the system's ability to detect low-level structural vibrations and to convert these vibrations into transient amplitude and decay rate characteristics.

(2) On page 42, line 4, after "invention." Please add the following:

As shown through the test results identified in **figures 11** through **14** below, the system and method of the present invention detect vibration responses on the exterior of a structure so as to determine transient amplitude and decay characteristics. The system detects low-level vibrations that are converted into dominant transient signals indicating amplitude fluctuations as well as decay rates associated with system stability. Structural stability is characterized in terms of response amplitudes that decay sufficiently within fixed time intervals. Structural instability is characterized in terms of growing response amplitudes that do not decay within the fixed time intervals.

(3) On page 42, line 21, after "second device." Please add the following:

Figure 12(a) shows transient characteristics that indicate structural stability. The structure exhibits a strong transient behavior that grows in amplitude, but that decays to pre-transient levels. Later in the time history, multiple transients are observed with growing amplitude and decay rates that do not allow a return to pre-transient levels. Collapse is indicated near the end of the record and coincides with the large transient near 1200 seconds.

(4) On page 43, line 7, after "structure." Please add the following:

The signal obtained shows the system of the present invention's ability to track transient conditions associated with structural stability. The signal is taken early during the burn test on the Phoenix, Arizona, structure and highlights the system's ability to sense growing transient amplitudes and the subsequent decay beyond 160.5 seconds. The ability of the system to provide this information allows a methodology based on tracking transient characteristics indicative of structural stability.

(5) On page 45, line 5, after "devices." Please add the following:

Figure 13 shows transient amplitude based collapse index for a single family home. Baseline information is the basis for comparisons below 1400 seconds over which no significant variation in structural stability is observed. Beyond 1400 seconds, rapid changes in transient amplitudes and the growing decay rates result in large variations from baseline leading to ultimate collapse.

(6) On page 45, line 7, after "collapse." Please add the following:

The response shown is a snap shot of changing transient characteristics leading to global structural collapse during the burn test on a single family home.